Excellence in Compliance Testing

Transmitter Certification

Test Report

FCC ID: V5E-DCX
IC: 7620A-DCX

FCC Rule Part: 15.249
IC Radio Standards Specification: RSS-210

ACS Report Number: 07-0246 - 15C

Manufacturer: Applied Mesh Technologies
Model(s): DCX iDEN, DCX CDMA

Test Begin Date: May 29, 2007
Test End Date: June 7, 2007

Report Issue Date: May 12, 2008

FOR THE SCOPE OF ACCREDITATION UNDER LAB Code 200612-0

This report is not be used to claim certification, approval, or endorsement by NVLAP, NIST or any government agency.

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Reviewed by:

Director, Wireless Certifications
ACS, Inc.

This report contains 17 pages

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1.0 GENERAL

1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations and Industry Canada's Radio Standards Specification RSS-210.

1.2 Product Description

1.2.1 General

The DCX (Direct Connect eXternal) device is a small, communications interface unit that connects to any solid-state meter via a standard RS-232 connection. While originally created to serve as a metering communication gateway, providing two way communication services for the retrieval of meter data (register, interval and power quality); the DCX has found applications in Load Control, SCADA, Distribution Automation, Power Quality Monitoring, Outage Notification and other uses requiring robust, hardened communication services.

The DCX uses Bluetooth for short range communications, of which is covered in this report. The DCX also uses WAN communication networks including digital cellular (iDEN, CDMA) and Ethernet to communicate data to the Utility. For WAN communications the DCX can be configured with one the following pre-approved modem modules using antennas either internal or external to the DCX enclosure. See internal and external photograph exhibits for more details.

DCX iDEN
Motorola iO270:
FCC ID: AZ489FT7011
IC: 109U-89FT7011

DCX CDMA
Wavecom Q2438
FCC ID: 09EQ2438F-M
IC: 3651C-Q2438

Applicant Information:
Applied Mesh Technologies
151 Osigian Blvd, Suite 154
Warner Robins, Georgia 31088

1.2.2 Intended Use

The DCX is intended to retrieve meter data and communicate the information back to the Utility.

1.3 Test Methodology and Considerations

The DCX utilizes a Bluetooth radio for short range communications. This report covers the Bluetooth operation for the purpose of Certification. Based on the measured fundamental field strength, this device complies with FCC Part 15.249 and RSS-210 for Industry Canada.

The DCX can be configured with either a Motorola iO270 or Wavecom Q2438 pre-approved modem for WAN communications. Antennas for the WAN modems can be configured internal or external to the DCX enclosure. Radiated inter-modulation products for all combinations were evaluated and results presented in this report.

The DCX is designed to operate with and connect to several electric meter types and models. Testing was performed with the DCX connected to a representative meter for each test. The meter manufacturer or type may not be the same for all tests (radiated or AC power line conducted emissions).

2.0 TEST FACILITIES

2.1 Location

The radiated and conducted emissions test sites are located at the following address:

Advanced Compliance Solutions
5015 B.U. Bowman Drive
Buford, GA 30518
Phone: (770) 831-8048
Fax: (770) 831-8598

2.2 Laboratory Accreditations/Recognitions/Certifications

The Semi-Anechoic Chamber Test Site, Open Area Test Site (OATS) and Conducted Emissions Site have been fully described, submitted to, and accepted by the FCC, Industry Canada and the Japanese Voluntary Control Council for Interference by information technology equipment. In addition, ACS is compliant to ISO 17025 as certified by the National Institute of Standards and Technology under their National Voluntary Laboratory Accreditation Program. The following certification numbers have been issued in recognition of these accreditations and certifications:

FCC Registration Number: 894540
Industry Canada Lab Code: IC 4175
VCCI Member Number: 1831

- VCCI OATS Registration Number R-1526
- VCCI Conducted Emissions Site Registration Number: C-1608

NVLAP Lab Code: 200612-0

2.3 Radiated Emissions Test Site Description

2.3.1 Semi-Anechoic Chamber Test Site

The Semi-Anechoic Chamber Test Site consists of a 20' x 30' x 18' shielded enclosure. The chamber is lined with Toyo Ferrite Grid Absorber, model number FFG-1000. The ferrite tile grid is 101 x 101 x 19mm thick and weighs approximately 550 grams. These tiles are mounted on steel panels and installed directly on the inner walls of the chamber.

The turntable is 150cm in diameter and is located 160cm from the back wall of the chamber. The chamber is grounded via 1 - 8' copper ground rod, installed at the center of the back wall, it is bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is all steel, flush mounted table installed in an all steel frame. The table is remotely operated from inside the control room located 25' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Behind the turntable is a 3' x 6' x 4' deep shielded pit used for support equipment if necessary. The pit is equipped with 1 - 4" PVC chases from the turntable to the pit that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit.

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3-1 below:

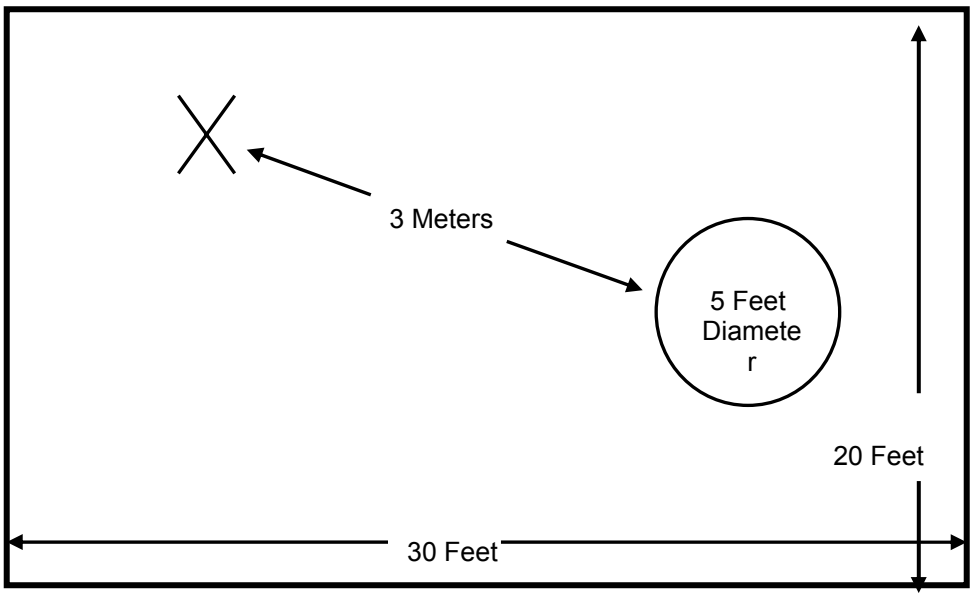

Figure 2.3-1: Semi-Anechoic Chamber Test Site

2.3.2 Open Area Tests Site (OATS)

The open area test site consists of a 40' x 66' concrete pad covered with a perforated electro-plated galvanized sheet metal. The perforations in the sheet metal are 1/8" holes that are staggered every 3/16". The individual sheets are placed to overlap each other by 1/4" and are riveted together to provide a continuous seam. Rivets are spaced every 3" in a 3 x 20 meter perimeter around the antenna mast and EUT area. Rivets in the remaining area are spaced as necessary to properly secure the ground plane and maintain the electrical continuity.

The entire ground plane extends 12' beyond the turntable edge and 16' beyond the antenna mast when set to a 10 meter measurement distance. The ground plane is grounded via 4 - 8' copper ground rods, each installed at a corner of the ground plane and bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is an all aluminum 10' flush mounted table installed in an all aluminum frame. The table is remotely operated from inside the control room located 40' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Adjacent to the turntable is a 7' x 7' square and 4' deep concrete pit used for support equipment if necessary. The pit is equipped with 5 - 4" PVC chases from the pit to the control room that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit. The pit is covered with 2 sheets of 1/4" diamond style re-enforced steel sheets. The sheets are painted to match the perforated steel ground plane; however the underside edges have been masked off to maintain the electrical continuity of the ground plane. All reflecting objects are located outside of the ellipse defined in ANSI C63.4.

A diagram of the Open Area Test Site is shown in Figure 2.3-2 below:

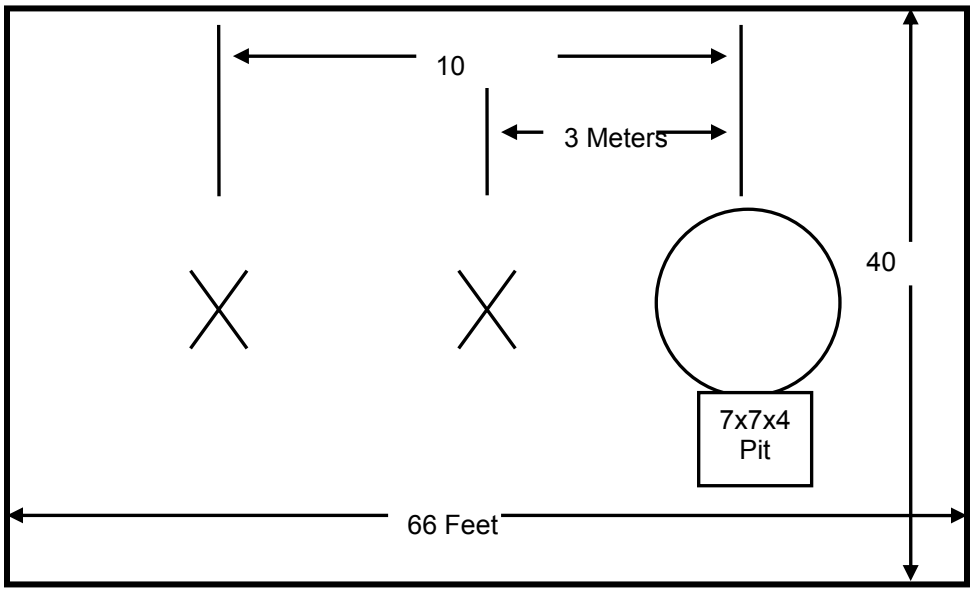

Figure 2.3-2: Open Area Test Site

2.4 Conducted Emissions Test Site Description

The AC mains conducted EMI site is located in the main EMC lab. It consists of an 8' x 8' solid aluminum horizontal group reference plane (GRP) bonded every 3" to an 8' X 8' vertical ground plane.

The site is of sufficient size to test table top and floor standing equipment in accordance with section 6.1.4 of ANSI C63.4.

A diagram of the room is shown below in figure 4.1.3-1:

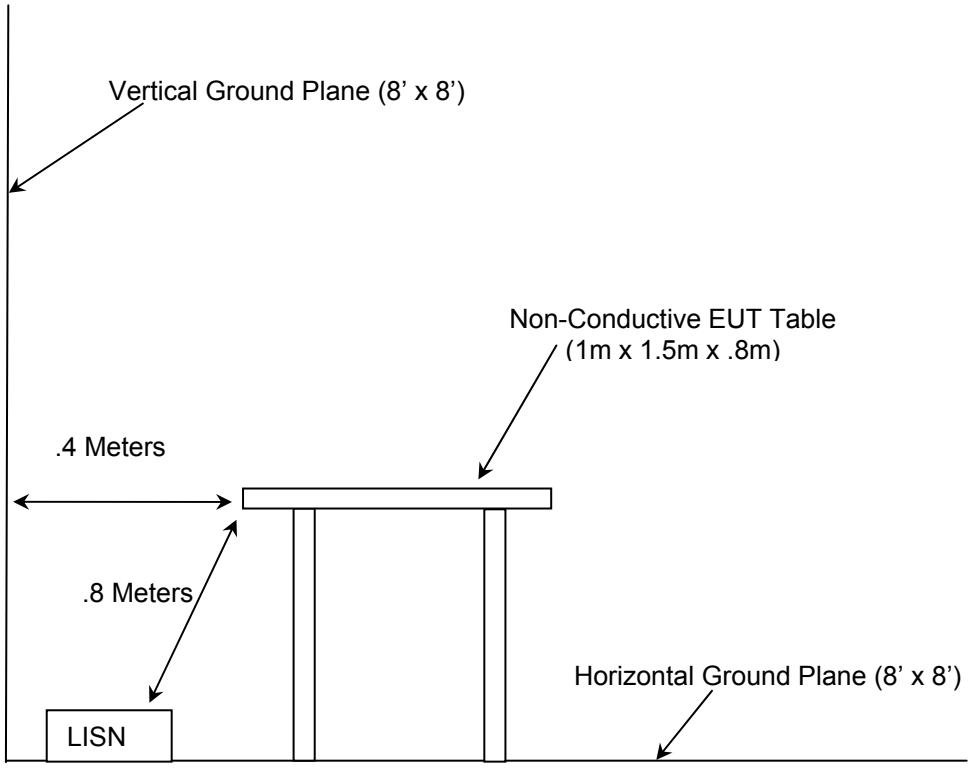

Figure 2.4-1: AC Mains Conducted EMI Site

3.0 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.4-2003: Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9KHz to 40GHz
- US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2007
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2007
- FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems, March 30, 2000
- Industry Canada Radio Standards Specification: RSS-210 - Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, Issue 7 June 2007

4.0 LIST OF TEST EQUIPMENT

All test equipment used for regulatory testing is calibrated yearly or according to manufacturer's specifications.

Table 4-1: Test Equipment

Equipment Calibration Information					
ACS #	**Mfg.**	**Model**	**S/N**	**Equipment Type**	**Cal. Due**
1	Rohde & Schwarz	ESMI - Display	833771/007	Spectrum Analyzers	05-Mar-08
2	Rohde & Schwarz	ESMI-Receiver	839587/003	Spectrum Analyzers	05-Mar-08
3	Rohde & Schwarz	ESMI - Display	839379/011	Spectrum Analyzers	24-Oct-07
4	Rohde & Schwarz	ESMI - Receiver	833827/003	Spectrum Analyzers	24-Oct-07
22	Agilent	8449B	3008A00526	Amplifiers	08-Apr-07
25	Chase	CBL6111	1043	Antennas	06-Jun-08
30	Spectrum Technologies	DRH-0118	970102	Antennas	10-May-08
40	EMCO	3104	3211	Antennas	02-Jan-08
152	EMCO	3825/2	9111-1905	LISN	20-Feb-08
153	EMCO	3825/2	9411-2268	LISN	16-Nov-07
211	Eagle	C7RFM3NFNM	HLC-700	Filters	08-Jan-08
253	Florida RF Labs	Lab-Flex 290	253	Cables	01-Aug-07
269	Weinschel	24-20-34	BL0387	Attenuators	05-Feb-08
282	Microwave Circuits	H2G020G4	74541	Filters	09-Mar-08
283	Rohde & Schwarz	FSP40	1000033	Spectrum Analyzers	09-Nov-08
290	Florida RF Cables	SMSE-200-72.0-SMRE	None	Cables	15-May-08
291	Florida RF Cables	SMRE-200W-12.0-SMRE	None	Cables	15-May-08
292	Florida RF Cables	SMR-290AW-480.0-SMR	None	Cables	24-May-08
338	Hewlett Packard	8449B	3008A01111	Amplifiers	26-Sep-07

5.0 SUPPORT EQUIPMENT

Table 5-1: Support Equipment

Item	Equipment Type	Manufacturer	Model Number	Serial Number	FCC ID
1*	Electric Meter	GE	kV2c FM16S	28 199 092	NA
2**	Electric Meter	Elster	FM9S (8S)	05286887	NA

* Used for AC power line conducted emissions measurements.
** Used for intentional and unintentional radiated emissions measurements.

6.0 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAMS

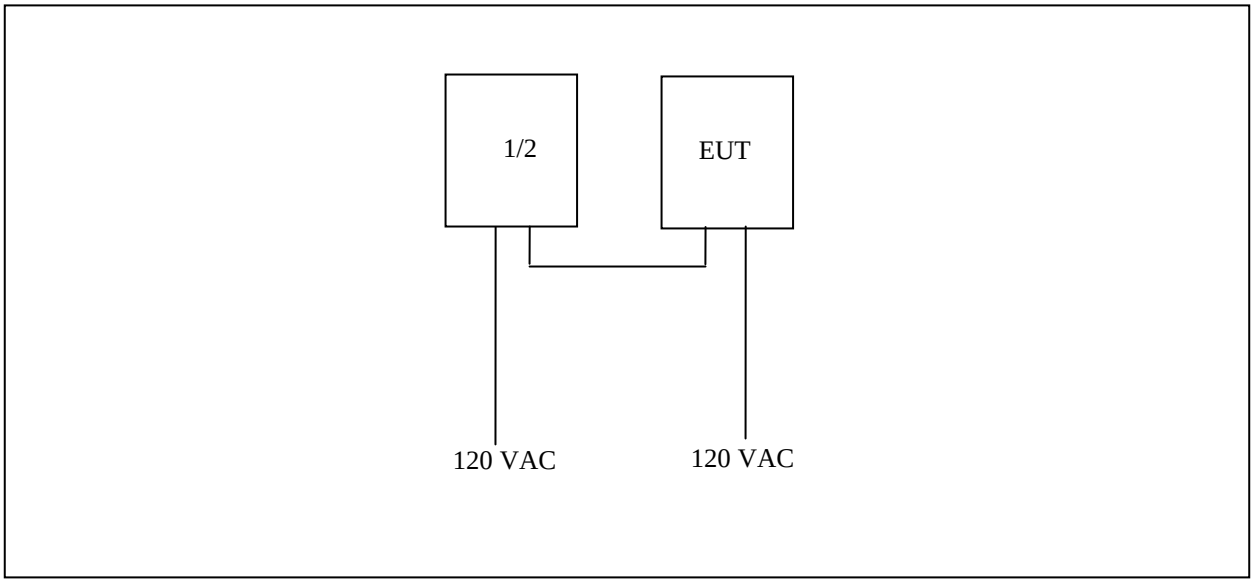

Figure 6-1: EUT Test Setup

*See Test Setup photographs for additional detail.

7.0 SUMMARY OF TESTS

Along with the tabular data shown below, plots were taken of all signals deemed important enough to document.

7.1 Antenna Requirement - FCC Section 15.203

The antenna used is a surface mount multi-layer ceramic antenna with 3dBi gain. Because the antenna is permanently attached, it meets the requirements of FCC Part 15.203.

7.2 Power Line Conducted Emissions

7.2.1 Test Methodology

ANSI C63.4 sections 6 and 7 were the guiding documents for this evaluation. Conducted emissions were performed from 150kHz to 30MHz with the spectrum analyzer's resolution bandwidth set to 9kHz and the video bandwidth set to 30kHz. The calculation for the conducted emissions is as follows:

Corrected Reading = Analyzer Reading + LISN Loss + Cable Loss
Margin = Applicable Limit - Corrected Reading

7.2.2 Test Results

Results of the test are shown below in and Table 7.2.2-1.

Table 7.2.2-1: Conducted EMI Results

Frequency (MHz)	Uncorrected Reading (dBuV)		Total Correction Factor (dB)	Corrected Level (dBuV)		Limit (dBuV)		Margin (dB)	
	Quasi-Peak	Average		Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
Line 1									
0.5917	28.2	17.9	9.80	38.00	27.70	56.00	46.00	18.0	18.3
3.7542	23.6	10.4	9.80	33.40	20.20	56.00	46.00	22.6	25.8
8.104	28.2	15.3	9.90	38.10	25.20	60.00	50.00	21.9	24.8
13.43	20.5	8	10.01	30.51	18.01	60.00	50.00	29.5	32.0
14.61	22.8	9.5	10.01	32.81	19.51	60.00	50.00	27.2	30.5
15.4	19.9	7.5	10.01	29.91	17.51	60.00	50.00	30.1	32.5
Line 2									
0.59	28	20.5	9.80	37.80	30.30	56.00	46.00	18.2	15.7
2.17	28.9	22.2	9.80	38.70	32.00	56.00	46.00	17.3	14.0
4.14	30.3	24.2	9.80	40.10	34.00	56.00	46.00	15.9	12.0
9.07	28.7	18	9.90	38.60	27.90	60.00	50.00	21.4	22.1
14.98	17.1	7.2	10.02	27.12	17.22	60.00	50.00	32.9	32.8
18.93	18.9	11.2	10.11	29.01	21.31	60.00	50.00	31.0	28.7

7.3 Radiated Emissions - Unintentional Radiation

7.3.1 Test Methodology

Radiated emissions tests were performed over the frequency range of 30MHz to 12500 MHz to account for the 2480 MHz transceiver (receiver portion). Measurements of the radiated field strength were made at a distance of 3m from the boundary of the equipment under test (EUT) and the receiving antenna. The antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000 MHz a Quasi-peak detector was enabled and measurements were taken with the Spectrum Analyzer's resolution bandwidth set to 120 KHz. For frequencies above 1000MHz, average measurements were made using an RBW of 1 MHz and a VBW of 10 Hz and peak measurements were made with RBW of 1 MHz and a VBW of 3 MHz.

7.3.2 Test Results

Results of the test are given in Table 7.3.2-1 below:

Table 7.3.2-1 – Radiated Emissions (Unintentional)

Frequency (MHz)	Level (dBuV)		Antenna Polarity (H/V)	Correction Factors (dB)	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg			pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
96.08	---------	53.20	H	-16.00	---------	37.2	---------	43.5	---------	6.3
179.36	---------	57.80	H	-15.50	---------	42.3	---------	43.5	---------	1.2
311.44	---------	56.20	H	-10.20	---------	46.0	---------	46.0	---------	0.0
451.20	---------	51.20	H	-7.00	---------	44.2	---------	46.0	---------	1.8
497.60	---------	49.10	V	-5.70	---------	43.4	---------	46.0	---------	2.6
645.04	---------	44.90	V	-2.70	---------	42.2	---------	46.0	---------	3.8
681.92	---------	40.80	H	-2.10	---------	38.7	---------	46.0	---------	7.3
718.72	---------	41.20	H	-1.90	---------	39.3	---------	46.0	---------	6.7
755.60	---------	42.40	H	-1.30	---------	41.1	---------	46.0	---------	4.9
767.92	---------	40.40	H	-1.20	---------	39.2	---------	46.0	---------	6.8
1309	58.42	47.81	H	-12.29	46.13	35.52	74.0	54.0	27.87	18.48
1433	54.49	44.60	H	-11.66	42.83	32.94	74.0	54.0	31.17	21.06
2141	52.13	43.31	H	-7.30	44.83	36.01	74.0	54.0	29.17	17.99
4876	54.90	50.22	H	1.58	56.48	51.80	74.0	54.0	17.52	2.20
1161	51.49	40.40	V	-12.97	38.52	27.43	74.0	54.0	35.48	26.57
1305	55.66	45.65	V	-12.19	43.47	33.46	74.0	54.0	30.53	20.54
4864	51.85	45.76	V	1.59	53.44	47.35	74.0	54.0	20.56	6.65
9752	51.95	43.28	V	7.73	59.68	51.01	74.0	54.0	14.32	2.99
9752	51.46	42.34	H	7.73	59.19	50.07	74.0	54.0	14.81	3.93

* Note: All emissions above 9752MHz were not detected above the noise floor of the measurement equipment and therefore attenuated below the permissible limit.

7.4 20dB Bandwidth

7.4.1 Test Methodology

The spectrum analyzer span was set to 2 to 3 times the estimated 20 dB bandwidth of the emission. The RBW was to ≥ 1% of the estimated 20 dB bandwidth. The trace was set to max hold with a peak detector active. The marker delta function of the analyzer was utilized to determine the 20 dB bandwidth of the emission.

7.4.2 Test Results

The maximum 20dB bandwidth was determined to be 2000.00 kHz. The frequency band designated for operation is 2400-2483.5 MHz, therefore the 20dB bandwidth is contained within the entire frequency band. Results are shown below in Table 7.4.2-1 and Figures 7.4.2-1 through 7.4.2-3.

Table 7.4.2-1: 20dB Bandwidth

Frequency (MHz)	20dB Bandwidth (kHz)
2402	1370.00
2440	1920.00
2480	2000.00

Figure 7.4.2-1: 20dB Bandwidth Low Channel

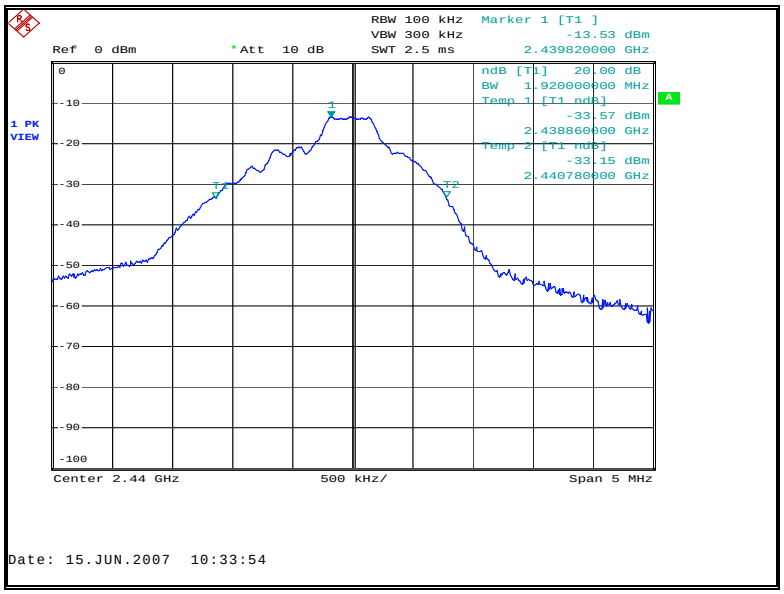

Figure 7.4.2-2: 20dB Bandwidth Mid Channel

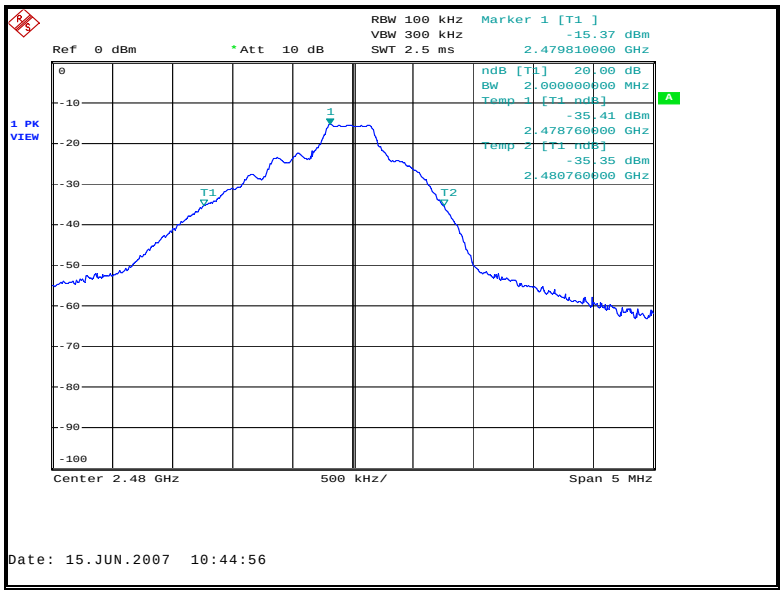

Figure 7.4.2-3: 20dB Bandwidth High Channel

7.5 Fundamental Field Strength

7.5.1 Test Methodology

Radiated emissions tests were made on 3 channels in the 2400 to 2483.5 MHz frequency range, the low channel being 2402 MHz, the middle channel being 2440 MHz, and the high channel being 2480 MHz.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies above 1000MHz, peak measurements were made with RBW of 1 MHz and a VBW of 3 MHz. Average emission levels were determined by correcting the peak value for the duty cycle.

7.5.2 Duty Cycle Correction

Bluetooth uses 79 channels and uses FHSS with a 1600hops per second (625us). The hopping frequency is derived out of a specific Bluetooth sequencing and defined to be equally distributed over a short period of time. An equal distribution of all channels over time means each channel is used (1600 x 0.1 / 79 =) 2.03 times per 100ms. This leads to a dwell time of (2 x 625us) = 1.25ms.

For average radiated emissions, the measured peak level was reduced by a factor 38.06dB to account for the duty cycle of the EUT. The duty cycle was determined to be 1.25% or 1.25ms with a 100ms period. The duty cycle correction factor is determined using the formula: 20log (.0125) = 38.06dB.

7.5.3 Test Results

Results are shown below in table 7.5.3-1 below:

Table 7.5.3-1: Fundamental Field Strength

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel - 2402 MHz										
2402	93.17	93.17	H	-1.25	91.92	53.85	114.0	94.0	22.08	40.15
2402	92.94	92.94	V	-1.52	91.42	53.36	114.0	94.0	22.58	40.62
Mid Channel - 2440 MHz										
2440	90.85	90.85	H	-1.09	89.76	51.70	114.0	94.0	24.24	42.28
2440	87.73	87.73	V	-1.37	86.36	48.30	114.0	94.0	27.64	45.68
High Channel - 2480 MHz										
2480	87.30	87.30	H	-0.92	86.38	48.32	114.0	94.0	27.62	45.66
2480	84.87	84.87	V	-1.21	83.66	45.60	114.0	94.0	30.34	48.38

7.6 Band-Edge Compliance and Spurious Emissions

7.6.1 Band-Edge Compliance

7.6.1.1 Test Methodology

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

The EUT was investigated at the low and high channels of operation to determine band-edge compliance. Band-edge compliance for the lower and upper band-edge was determined using the radiated mark-delta method as outlined in FCC DA 00-705. The radiated field strength of the fundamental emission was first determined and then the mark-delta method was used to determine the field strength of the band-edge emissions as compared to the emission limits of 15.209.

For average radiated measurements, the measured peak level was reduced by a factor 38.06dB to account for the duty cycle of the EUT. See section 7.5.2 for more details.

7.6.1.2 Test Results

Band-edge compliance is displayed in Tables 7.6.1.2-1 to 7.6.1.2-2 and Figures 7.6.1.2-1 – 7.6.1.2-2.

Table 7.6.1.2-1: Lower Band-edge Marker Delta Method

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Fundamental Field Strength (dBuV/m)		Delta-Marker (dB)	Band-edge Field Strength (dBuV/m)		Margin to Limit (dBuV/m) 74	54
	pk	avg	(H/V)	(dB)	pk	avg		pk	avg	pk	avg
Fundamental Frequency											
2402	93.17	93.17	H	-1.25	91.92	53.85	37.1	54.82	16.75	19.18	37.25

Table 7.6.1.2-2: Upper Band-edge Marker Delta Method

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Fundamental Field Strength (dBuV/m)		Delta-Marker (dB)	Band-edge Field Strength (dBuV/m)		Margin to Limit (dBuV/m) 74	54
	pk	avg	(H/V)	(dB)	pk	avg		pk	avg	pk	avg
Fundamental Frequency											
2480	87.30	87.30	H	-0.92	86.38	48.32	43.29	43.09	5.03	30.91	48.97

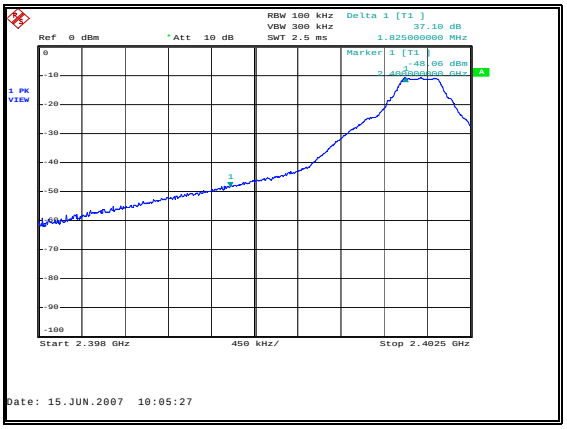

Figure 7.6.1.2-1 Lower Band-edge

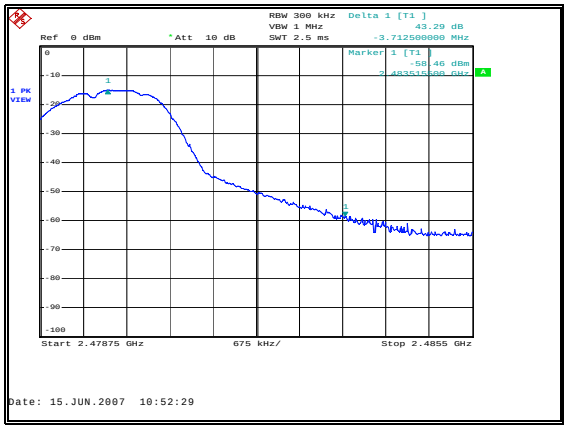

Figure 7.6.1.2-2 Upper Band-edge

7.6.2 Radiated Spurious Emissions

7.6.2.1 Test Methodology

Radiated emissions tests were made over the frequency range of 30MHz to 25 GHz, 10 times the highest fundamental frequency.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000MHz, quasi-peak measurements were made using a resolution bandwidth (RBW) of 120 kHz and a video bandwidth (VBW) of 300 kHz. For frequencies above 1000MHz, peak measurements were made with RBW of 1 MHz and a VBW of 3 MHz. Average emission levels were determined by correcting the peak value for the duty cycle.

7.6.2.2 Duty Cycle Correction

For average radiated measurements, the measured level was reduced by a factor 38.06dB to account for the duty cycle of the EUT. The duty cycle was determined to be 1.25% or 1.25ms with a 100ms period. The duty cycle correction factor is determined using the formula: 20log (.0125) = 38.06dB. See section 7.5.2 for more details.

7.6.2.3 Test Results

Results are shown below in Table 7.6.2.3-1.

Table 7.6.2.3-1 - Radiated Spurious Emissions

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
4804	53.86	53.86	H	6.62	60.48	22.42	74.0	54.0	13.52	31.58
4804	52.67	52.67	V	6.64	59.31	21.25	74.0	54.0	14.69	32.75
7206	53.23	53.23	H	12.08	65.31	27.25	74.0	54.0	8.69	26.75
7206	54.09	54.09	V	12.13	66.22	28.15	74.0	54.0	7.78	25.85
9608	49.60	49.60	H	13.23	62.83	24.76	74.0	54.0	11.17	29.24
9608	51.60	51.60	V	13.23	64.83	26.76	74.0	54.0	9.17	27.24
Mid Channel										
4880	56.50	56.50	H	6.84	63.34	25.28	74.0	54.0	10.66	28.72
4880	53.02	53.02	V	6.89	59.91	21.85	74.0	54.0	14.09	32.15
7320	54.60	54.60	H	12.15	66.75	28.68	74.0	54.0	7.25	25.32
7320	53.30	53.30	V	12.21	65.51	27.45	74.0	54.0	8.49	26.55
9760	44.47	44.47	H	13.15	57.62	19.56	74.0	54.0	16.38	34.44
9760	48.00	48.00	V	13.15	61.15	23.09	74.0	54.0	12.85	30.91
High Channel										
4960	51.60	51.60	H	7.07	58.67	20.61	74.0	54.0	15.33	33.39
4960	51.63	51.63	V	7.15	58.78	20.72	74.0	54.0	15.22	33.28
7440	46.01	46.01	H	12.21	58.22	20.16	74.0	54.0	15.78	33.84
7440	46.34	46.34	V	12.30	58.64	20.58	74.0	54.0	15.36	33.42
9920	46.80	46.80	H	13.07	59.87	21.80	74.0	54.0	14.13	32.20
9920	49.27	49.27	V	13.07	62.34	24.27	74.0	54.0	11.66	29.73

The magnitude of all emissions not reported were below the noise floor of the measurement system.

7.6.2.4 Sample Calculation:

$R_C = R_U + CF_T$

Where:

CF_T	=	Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only)
R_U	=	Uncorrected Reading
R_C	=	Corrected Level
AF	=	Antenna Factor
CA	=	Cable Attenuation
AG	=	Amplifier Gain
DC	=	Duty Cycle Correction Factor

Example Calculation

PEAK:
Corrected Level: 53.86 + 6.62 = 60.48dBuV
Margin: 74dBuV – 60.48dBuV = 13.52dB

AVERAGE:
Corrected Level: 53.86 + 6.62 - 38.06= 22.42dBuV
Margin: 54dBuV – 22.42dBuV = 31.58dB

8.0 CONCLUSION

In the opinion of ACS, Inc. the DCX iDEN snd DCX CDMA, manufactured by Applied Mesh Technologies, LLC meets the requirements of FCC Part 15 subpart C and Industry Canada's Radio Standards Specification RSS-210.

END REPORT